

AMENDMENTS TO THE DRAWINGS

A replacement sheet containing Fig. 4 is attached herewith. In Fig. 4, reference numeral 10 has been added to the box labeled "Router Node." Also, another dashed box 10 has been added to represent another router node. Support for this amendment of claim Fig. 4 can be found in ¶ [0014] of the Specification on page 5.

In addition, reference numerals "220" and "210" have been replaced with "202" and "201." Note that "220" and "210" were used elsewhere in the Specification to refer to other components. An amendment to the Specification corresponding to the renumbered components is provided in ¶ [0016]. No new matter has been added.

REMARKS

In the Office Action dated January 3, 2006, the specification was objected to; claims 1-12 and 29-30 were rejected under 35 U.S.C. § 112, ¶ 1; claims 1-3, 5, 8-19, 22-27, and 29-31 were rejected under § 102 over U.S. Patent No. 6,535,518 (Hu); claim 7 was rejected under § 103 over Hu in view of U.S. Patent No. 6,757,753 (DeKoning); claim 28 was rejected under § 103 over Hu, DeKoning, and U.S. Patent No. 6,754,718 (Dobberpuhl); claims 1-3, 5, 7-17, 19, and 22-31 were indicated as being rejected under § 102 over U.S. Patent Application Publication No. 2002/0083120 (Soltis), or alternatively, under § 103 over Soltis; and claims 1-3, 5, 7-17, 19, and 22-31 were indicated as being rejected under § 102 over U.S. Patent No. 6,400,730 (Latif), or alternatively, under § 103 over Latif.

OBJECTION TO THE SPECIFICATION

Applicant has carefully read through the Specification and made changes to fix grammatical and idiomatic errors, as suggested by the Examiner.

REJECTION UNDER 35 U.S.C. § 112, ¶ 1

The Office Action stated that the Specification does not provide enablement for claims 1-12 and 29-30. In particular, the Office Action stated that the Specification does not enable the use of at least first and second router nodes as recited in independent claim 1.

Applicant respectfully disagrees with this assessment. Specifically, ¶ [0012] on page 4 of the Specification states that the cluster nodes 20 are attached to one or *more* router nodes 10 via a SAN 40. Paragraph [0014] on page 5 states that “it is contemplated that multiple Router Nodes 10 may be used.” Paragraph [0014] goes onto to further describe how the multiple Router Nodes 10 can be used. To support the recitation of the first and second router nodes, Fig. 4 has been amended to depict a second router node 10 (the added dashed box 10). This amendment of Fig. 4 is supported by the original Specification, and thus does not constitute new matter.

REJECTIONS UNDER 35 U.S.C. §§ 102 AND 103

Claim 1

Claim 1 was rejected as being anticipated by Hu. Applicant respectfully submits that Hu does not disclose each and every element of claim 1. The Office Action has basically repeated the same rejection asserted in the previous Office Action with respect to Hu.

The Office Action identified the following elements as being the first and second router nodes recited in claim 1: items 130 and 110 in Fig. 8, and items 220 and 250 in Fig. 9 of Hu. Item 110 of Fig. 8 in Hu is either a storage device or a storage area network (SAN). Item 130 in Fig. 8 of Hu is a network. Item 220 in Fig. 9 of Hu is a network interface that is part of a three-way network server bypass device for interfacing the network 130. Storage or SAN interface 250 is also part of the bypass device for interfacing the storage or SAN 110. In the "Response to Arguments" section on page 17 of the Office Action, the Office Action further identified the network interface 220 and the storage or SAN interface 250 of the bypass device of Hu as being the nodes that "bridge the SAN network through the SAN interface 250 to the network through the network interface 220."

This statement in the Office Action, however, ignores the fact that network interface 220 of the bypass device of Hu, which is connected to the network 130, is *not* connected to cluster nodes via the SAN according to the SAN-based protocol. Only the SAN interface 250 of the bypass device of Hu is connected to the SAN 110 of Hu. The specific language of claim 1 is that the router nodes are *connected* to the plurality of cluster nodes via the SAN according to the SAN-based protocol. The network interface 220 clearly cannot be considered to be connected to the plurality of cluster nodes via the SAN according to the SAN-based protocol.

In fact, in view of the foregoing, it is clear that claim 1 is not anticipated by Hu.

The Office Action indicated that independent claim 1 was also rejected under § 102 or § 103 as being anticipated by or obvious over Soltis. However, in the discussion of the rejection over Soltis, the Office Action only provided an explanation for claim 17. No discussion whatsoever was provided regarding the purported rejection of claim 1 over Soltis. Therefore, the § 102 or § 103 rejection of claim 1 over Soltis is defective.

A similar defect exists with respect to the rejection of claim 1 over Latif. Again, the Office Action only provided an explanation of how Latif applied to claim 17 – no explanation was provided regarding how Latif applied to claim 1. Therefore, this rejection is also defective.

In fact, it is clear that neither Soltis nor Latif discloses or suggests the subject matter of claim 1. Fig. 4 of Soltis shows two Nasan clients 142 and an NAS server 106 connected between a LAN and a SAN. However, note that each Nasan client (such as the one depicted in Fig. 5) contains an application program 150 that initiates a request to perform a read or a write to the SAN-attached devices. A read path can flow from the SAN-attached devices 126 of Soltis through the SAN to the requesting Nasan client 142. Soltis, ¶ [0087]. Alternatively, a secondary read path flows from the SAN-attached devices through the SAN 128, NAS server 106, LAN 104, to the requesting Nasan client 142. *Id.* The write path starts from the Nasan client and proceeds through the LAN, NAS server, and SAN to the SAN-attached devices 126.

The clients 142 of Soltis clearly cannot be considered router nodes – rather, the clients are requesting devices that perform either a read request or a write request of the SAN-attached devices. Moreover, even if the NAS server 106 of Fig. 4 in Soltis can be considered a router node, there is only one NAS server depicted in Fig. 4. Therefore, claim 1 is not anticipated by or rendered obvious by Soltis.

Claim 1 is also not anticipated or rendered obvious by Latif. Note that Figs. 1-4 of Latif depict a storage area network (SAN) 10. In the rejection of claim 17, the Office Action pointed specifically to Fig. 5 of Latif. However, Fig. 5 of Latif shows a switch 235 that is part of the SAN depicted in Figs. 1-4. Thus, Fig. 5 shows switching between different formats within a SAN. There is no teaching of first and second routers nodes bridging a LAN to a SAN.

Claim 1 is therefore also allowable over Latif.

Claim 13

The rejections of independent claim 13 over Soltis and Latif are also defective since no explanation was provided by the Office Action regarding how Soltis or Latif can be applied to claim 13.

With respect to the rejection of claim 13 over Hu, the Office Action incorrectly identified a server 120 of Hu as being the cluster node that comprises a management node for setting routing policies on the router node, as recited in claim 13. The Office Action stated that “the server [of Hu] manages, sets the routing tables and acts as supervisor ...,” citing to Figs. 1, and 9 of Hu and column 7, lines 1-55, and column 9, lines 56-63, of Hu. 1/3/2006 Office Action at 6. As depicted in Fig. 8 of Hu, server 120 is connected to the three-way network server bypass device, not to the SAN 110. The server 120 of Hu is connected to the three-way network server bypass device through a server interface 240 in the bypass device (see Fig. 9, element 240). In a specific example, the server interface of Hu is a PCI interface (see element 340 in Fig. 10 of Hu). Thus, the server 120 identified by the Office Action cannot be a cluster node that is connected to a SAN according to a SAN-based protocol, as recited in claim 13. Thus, the server of Hu cannot constitute the cluster node that comprises a management node for setting routing policies on a router node.

Page 17 of the Office Action also referred to software on a server that is mentioned in column 8 of Hu. This software resides in the server 120, and thus cannot be considered a management node that is part of a *cluster node* for setting routing policies on the router node.

In view of the foregoing, it is respectfully submitted that claim 13 is not anticipated by Hu.

Since no explanation was provided by the Office Action regarding how Soltis applies to claim 13, it is unclear to Applicant what in Soltis is considered the management node within a cluster node. However, Applicant’s review of the Soltis reference does not find any management node within a cluster node for setting routing policies of a router node.

Similarly, since no explanation was provided regarding how Latif applies to claim 13, the Office Action has not informed Applicant how Latif discloses the management node of claim 13.

Applicant's review of Latif also does not find a management node that is part of the cluster node for setting routing policies of a router node that bridges a plurality of cluster nodes to a LAN.

Withdrawal of all rejections of claim 13 is therefore respectfully requested.

Claims 17, 22, 31

Independent claim 17 was rejected over each of Hu, Soltis, and Latif.

The Office Action incorrectly identified various passages of Hu as disclosing these elements of claim 17. Specifically, the Office Action identified column 5, line 26-column 6, line 58; column 10, lines 59-65; Fig. 10; and column 8, line 26-column 9, line 24, as disclosing these features of claim 17. 1/3/2006 Office Action at 8. The cited passage in columns 5 and 6 of Hu refers to routing traffic to the SAN or to the server based on the type of traffic. In other words, the selection being made by the bypass device of Hu is to route traffic to the *SAN* or to the *server*, based on the traffic type. This does not teach or suggest accessing information that maps *service types* to respective *SAN cluster nodes*. There is absolutely no suggestion that the traffic type determined in the passages at columns 5 and 6 of Hu are mapped to respective nodes of the SAN – Hu merely teaches that the traffic can be selectively routed to the server or to the SAN based on the traffic type. The additional cited passages in columns 8, 9 and 10 of Hu merely build upon the above teaching of Hu.

Page 18 of the Office Action stated that Hu discloses traffic types (1) and (2) routed to network or storage interfaces, and traffic types (3) and (4) sent to the server (based on the passage in column 5). However, this passage of column 5 merely notes that traffic types can be routed to the network interface (to send to a network), a storage interface (to send to a storage), or a server interface (to send to a server). There is no mapping of service types to cluster nodes.

Similarly, there is no teaching or suggestion in Soltis of the subject matter of claim 17. The Office Action made the comment that Soltis differs from the claimed subject matter “only by a degree, e.g., in the claimed second attribute information.” 1/3/2006 Office Action at 14. Claim 17 does not recite “second attribute information.” Therefore, this comment in the Office Action does not appear to be relevant to the claimed invention. Moreover, the difference between Soltis and the claimed subject matter is more significant – namely there is no suggestion whatsoever in Soltis of accessing information that maps service types to respective SAN cluster

nodes, and based on the service type specified by the received request and based on accessing the information, selecting one of the plural SAN cluster nodes. The Office Action cited the following passages of Soltis as disclosing accessing information that maps service types to respective SAN cluster nodes: Abstract, Fig. 3, ¶¶ [0053]-[0054], [0063]-[0070].

The Abstract of Soltis refers to a shared storage distributed file system with transparent access to a storage area network attached storage device. The Abstract of Soltis further notes that clients are provided read and write access over the SAN. However, nowhere within the Abstract is there even any hint of accessing information that maps service types to respective SAN cluster nodes. Fig. 3 and ¶¶ [0053]-[0054] of Soltis refer to a SAN appliance that contains an internal SAN, an NAS server 124, and SAN-attached devices 126 attached to the internal SAN 138. Again, nowhere within Fig. 3 or the cited passages of ¶¶ [0053] and [0054] of Soltis is there any suggestion of accessing information that maps service types to respective SAN cluster nodes.

Finally, the passages in ¶¶ [0063]-[0070] refer to the read paths and write paths provided by the system of Soltis. Nowhere within any of these passages is there any discussion of accessing information that maps service types to respective SAN cluster nodes.

In view of the foregoing, since Soltis fails to teach or suggest at least the accessing and selecting tasks of claim 17, it is respectfully submitted that claim 17 is neither anticipated nor obvious over Soltis.

Similarly, claim 17 is also allowable over Latif. The Office Action cited the following passages of Latif as disclosing the accessing act of claim 17: Abstract, Fig. 5, column 2, line 15-column 4, line 48. 1/3/2006 Office Action at 15. The Abstract of Latif refers to a method and apparatus for transferring data between IP devices and SCSI or Fibre Channel devices. There is no hint whatsoever in the Abstract of accessing information that maps service types to respective SAN cluster nodes.

Fig. 5 of Latif shows a switch fabric 240 that switches between a Fibre Channel interface, a SCSI interface, an IP port interface, and an Ethernet interface. However, there is no teaching or suggestion in Fig. 5, or the associated description in Latif, of accessing information that maps service types to respective SAN cluster nodes.

Moreover, the cited passages in columns 2-4 of Latif refer to a switch that is able to convert between different formats (IP, SCSI, Fibre Channel) with an internal format and back to one of the IP, SCSI, and Fibre Channel formats. There is no suggestion here of accessing information that maps service types to respective clustering nodes.

Therefore, it is clear that independent claim 17 is not anticipated or rendered obvious by Latif.

Independent claims 22 and 31 are allowable for similar reasons.

Dependent Claims

Dependent claims, including newly added dependent claim 32, are allowable for at least the same reasons as corresponding independent claims.

In view of the allowability of base claim 1 over Hu, it is respectfully submitted that the obviousness rejection of claims 7 and 28 over Hu and other references have been overcome.

Allowance of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 08-2025 (200304386-1).

Respectfully submitted,

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